

# Appendix F

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Lafayette High School and Season's Trace

Site Access Options

CONSIDERATION ITEM

**MEMORANDUM**

DATE: August 19, 2014

TO: Williamsburg James City County (WJCC) Schools – School Board

FROM: Ellen Cook, Senior Planner II

SUBJECT: Longhill Road Corridor Study – Matters Pertaining to Lafayette High School

Longhill Road is a primary travel corridor in the community that has seen steady increases in traffic volumes over the years leading to current periods of significant congestion and safety issues. Concern over these conditions was documented in the County's 2009 Comprehensive Plan, which included a vision statement for Longhill Road that suggested conducting a study to explore needs along the corridor and context-sensitive transportation solutions. In response, the County applied for an allocation of federal funds to conduct a study, and having received the funds, authorized a contract with Kimley Horn and Associates, Inc., to begin work on the study in April 2013. To date, the study has included extensive technical analysis (traffic count data collection, data on crash reports, etc.), a public input process (creation of a stakeholder Project Advisory Committee, four public meetings, a website, etc.), and check-in meetings with the County's Planning Commission and Board of Supervisors.

Using the technical analysis and the input received, Kimley Horn developed proposed typical sections for the corridor, an access management plan, and an intersection design plan. Together, these were used to produce concept renderings for the whole length of the corridor, as well as a listing of the recommended improvements and phasing recommendations. The proposal for the corridor includes widening to four lanes with a raised center median. With this configuration, which greatly enhances roadway operations and safety, there are some challenges with access into and out of the driveways along the corridor. One area in particular, is in the vicinity of the Lafayette High School (LHS) driveways (specifically the main entrance driveway) and the adjacent Season's Trace intersection. This segment of the corridor is a challenge due to closely spaced intersections. The recommended widening combined with the introduction of median, complicates the issue when attempting to meet VDOT access management requirements for distances between signalized and full-movement intersections (i.e., intersections that allow right turns in and out, as well as left turns in and out). In an effort to address the access needs of LHS and the Season's Trace neighborhood, Kimley Horn has investigated a number of options, and has reviewed the options with School Division staff. The table below provides a brief summary of the options, which are shown graphically in attachment 1, and described in greater detail and evaluated in attachment 2.

Brief Description	Staff/Consultant notes
#1: Signalized full movement intersection at Season's Trace. The LHS Main entrance access would be Right-in/Right-out (RI/RO) and Left-In ( <u>but not left out</u> ). Construction of a new connection road between LHS and Season's Trace to accommodate LHS traffic wishing to travel eastbound on Longhill Road.	Anticipated to have least cost and environmental impact. However, has the drawback of mixing school and neighborhood traffic.
#2: Moving the Season's Trace entrance road approximately 300 feet to the east. This would create enough distance to allow the Season's Trace and LHS entrances to each be full movement.	This option seems feasible, assuming VDOT would grant a design exception for the new curvature on Season's Trace, but does have a number of other drawbacks (see attachment 2).
#3: Eliminate the current main LHS entrance. The bus loop entrance would now be the main/only entrance. The bus loop itself would be moved to the west side of the school, while the main entrance road would split off and travel in front of the school before joining the existing	This option has the major safety drawback of mixing bus and car traffic at LHS, which does not meet School Division standards.

entrance road alignment. This would create enough distance to allow the Season's Trace and LHS entrances to each be full movement.	
#4: A new segment of road would be built that would connect the existing bus loop entrance to the rear parking lot. The existing main LHS entrance would either be eliminated or be RI/RO only. This would create enough distance to allow the Season's Trace and LHS bus loop entrances to each be full movement.	This option could be feasible, but appears extremely costly, with a substantial list of other drawbacks and numerous on-site impacts.
#5: Conversion of the bus loop intersection into a roundabout. In this option, motorists wishing to travel eastbound on Longhill Road (but unable to make a left out at the main entrance) would be accommodated by first turning right, then going around the roundabout at the LHS bus loop/Christian Life Center in order to reverse direction.	This option has the major safety drawback of mixing bus and car traffic at the LHS bus loop/Christian Life Center intersection, which does not meet School Division standards. It also has a number of other drawbacks.
#6: Conversion of the LHS main entrance into a roundabout. The Season's Trace and bus loop entrances would also remain full movement.	Staff is still in the process of determining whether VDOT would permit a roundabout in this location due to the spacing issues. However, in discussions with VDOT they are always in favor of roundabouts being taken into consideration for a means of access to/from a site or as a means of alternative traffic control. If permitted, it would allow full movement for the main entrance.
#7: The main entrance would have partial access (no left turn out) – the left-out movements would be accommodated by a new road segment that would take these vehicles across the front of the school over to the LHS bus loop entrance, where they would be able to do so.	This is not recommended from a feasibility, safety, and operations standpoint.
#8: A new segment of road would be built that would connect the parking at the rear of LHS to Warhill Sports Complex. The existing main entrance would be eliminated (or RI/RO only).	This is not recommended from a feasibility, cost, and environmental impact standpoint.
#9: In this option, all entrances would remain in their current locations, would have full movement, and would be signalized.	While this option would be ideal in many ways, it does not meet access management/intersection spacing guidelines. Staff can continue to work with VDOT to determine if there might be any chance that a design or access waiver could be granted.

Due to the complexity of this situation, staff and the consultant have determined that as far as the Longhill Road Corridor Study is concerned, the text will discuss the options, but will not make a final recommendation on this matter. Further, staff would note that widening of the segment of Longhill Road between Olde Towne Road and Warhill Trail intersections is not projected to occur until 2025-2027, and that funding has yet to be secured for this segment of the road. Staff would look to the School Board for any input it may have on the options, but a final determination on this matter is not necessary at this time. County staff anticipates additional discussion with the School Division and Board over time as implementation of improvements to Longhill Road proceeds, and would particularly look forward to further coordination efforts should it appear that there was an opportunity to address some safety and/or operations issues in the vicinity of LHS in advance of the actual widening project.

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Ellen Cook

#### Attachments

1. Depiction of Options
2. Description and Evaluation of Options

# Longhill Road Corridor Study

## Lafayette High School and Seasons Trace Intersections

Option #1



-  New Road Connection
-  Unsignalized Full Movement
-  Unsignalized Partial Access RI/RO Channelized Left-Turn
-  Signalized
-  James City County Hydrology

0 115 230 460 Feet



Coordinate System: NAD 1983 StatePlane  
Virginia South FIPS 450 Feet

Data Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed,  
Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX,  
Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User  
CommunityJames City County

**Kimley»Horn**

# Longhill Road Corridor Study

## Lafayette High School and Seasons Trace Intersections

Option #2



- New Road Connection
- Unsignalized Full Movement
- Unsignalized Partial Access RI/RO Channelized Left-Turn
- Signalized
- James City County Hydrology

0 90 180 360 Feet



Coordinate System: NAD 1983 StatePlane  
Virginia South FIPS 450 Feet

Data Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed,  
Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX,  
Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User  
CommunityJames City County

Kimley»Horn



Longhill Road  
Corridor Study

Lafayette High School  
and Seasons Trace  
Intersections

Option #3

-  New Road Connection
-  Unsignalized Full Movement
-  Unsignalized Partial Access RI/RO Channelized Left-Turn
-  Signalized
-  James City County Hydrology

0 90 180 360 Feet



Coordinate System: NAD 1983 StatePlane  
Virginia South FIPS 450 Feet

Data Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed,  
Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX,  
Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User  
CommunityJames City County



Longhill Road  
Corridor Study

Lafayette High School  
and Seasons Trace  
Intersections

Option #4

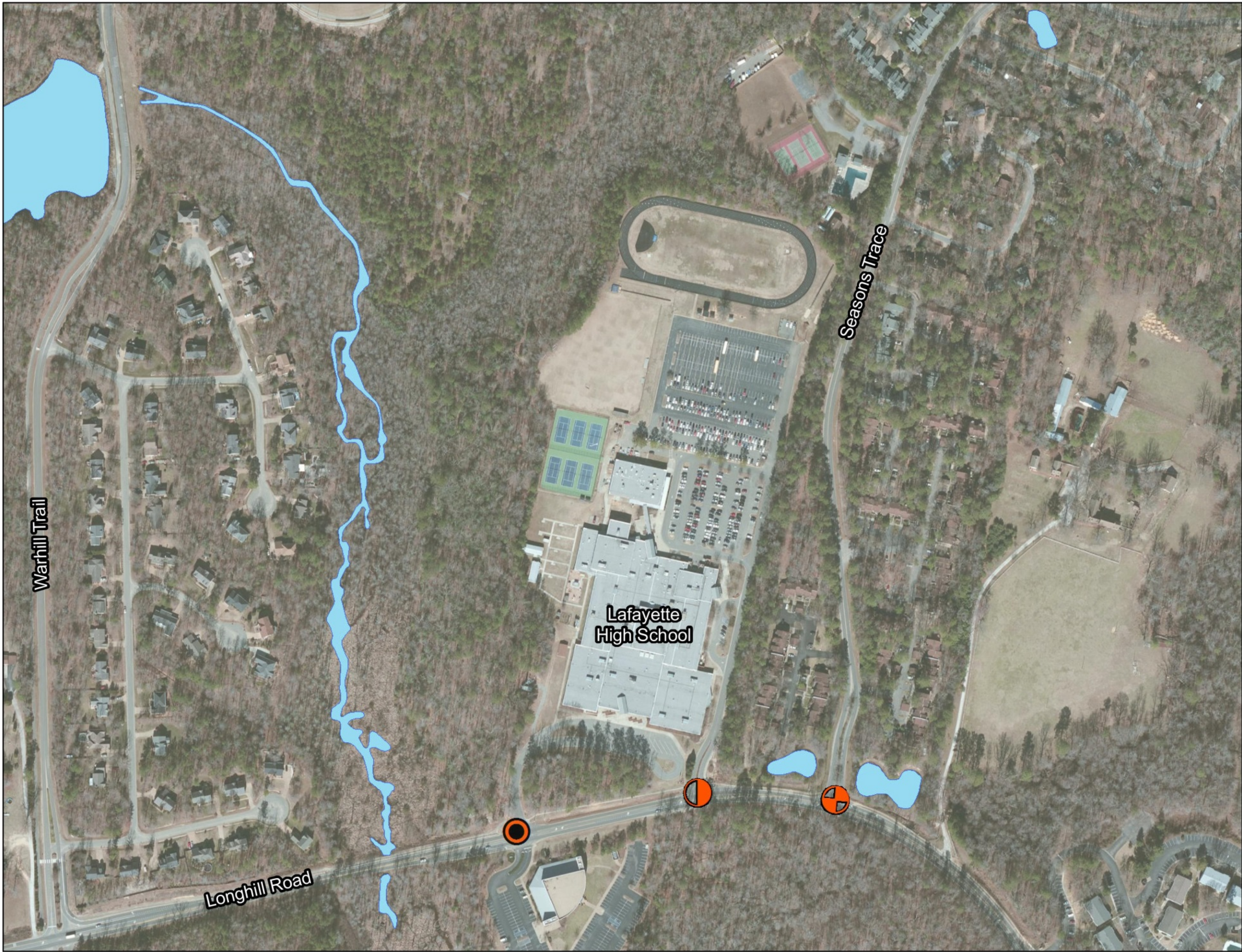
-  New Road Connection
-  Unsignalized Full Movement
-  Unsignalized Partial Access RI/RO Only
-  Signalized
-  James City County Hydrology

0 90 180 360 Feet



Coordinate System: NAD 1983 StatePlane  
Virginia South FIPS 450 Feet

Data Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User CommunityJames City County



Longhill Road  
Corridor Study

Lafayette High School  
and Seasons Trace  
Intersections

Option #5

-  Roundabout
-  Unsignalized Full Movement
-  Unsignalized Partial Access RI/RO Channelized Left-Turn
-  Signalized
-  James City County Hydrology

0 90 180 360 Feet



Coordinate System: NAD 1983 StatePlane  
Virginia South FIPS 450 Feet

Data Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User CommunityJames City County



# Longhill Road Corridor Study

## Lafayette High School and Seasons Trace Intersections

Option #6

-  Roundabout
-  Unsignalized Full Movement
-  Signalized
-  James City County Hydrology

0 90 180 360 Feet



Coordinate System: NAD 1983 StatePlane  
Virginia South FIPS 450 Feet

Data Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed,  
Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX,  
Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User  
CommunityJames City County

# Longhill Road Corridor Study

## Lafayette High School and Seasons Trace Intersections

Option #7



-  New Road Connection
-  Unsignalized Full Movement
-  Unsignalized Partial Access RI/RO Channelized Left-Turn
-  Signalized
-  James City County Hydrology

0 90 180 360 Feet



Coordinate System: NAD 1983 StatePlane  
Virginia South FIPS 450 Feet

Data Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed,  
Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX,  
Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User  
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Longhill Road  
Corridor Study

Lafayette High School  
and Seasons Trace  
Intersections

Option #8



-  New Road Connection
-  Unsignalized Full Movement
-  Unsignalized Partial Access RI/RO Channelized Left-Turn
-  Signalized
-  James City County Hydrology

0 90 180 360 Feet



Coordinate System: NAD 1983 StatePlane  
Virginia South FIPS 450 Feet

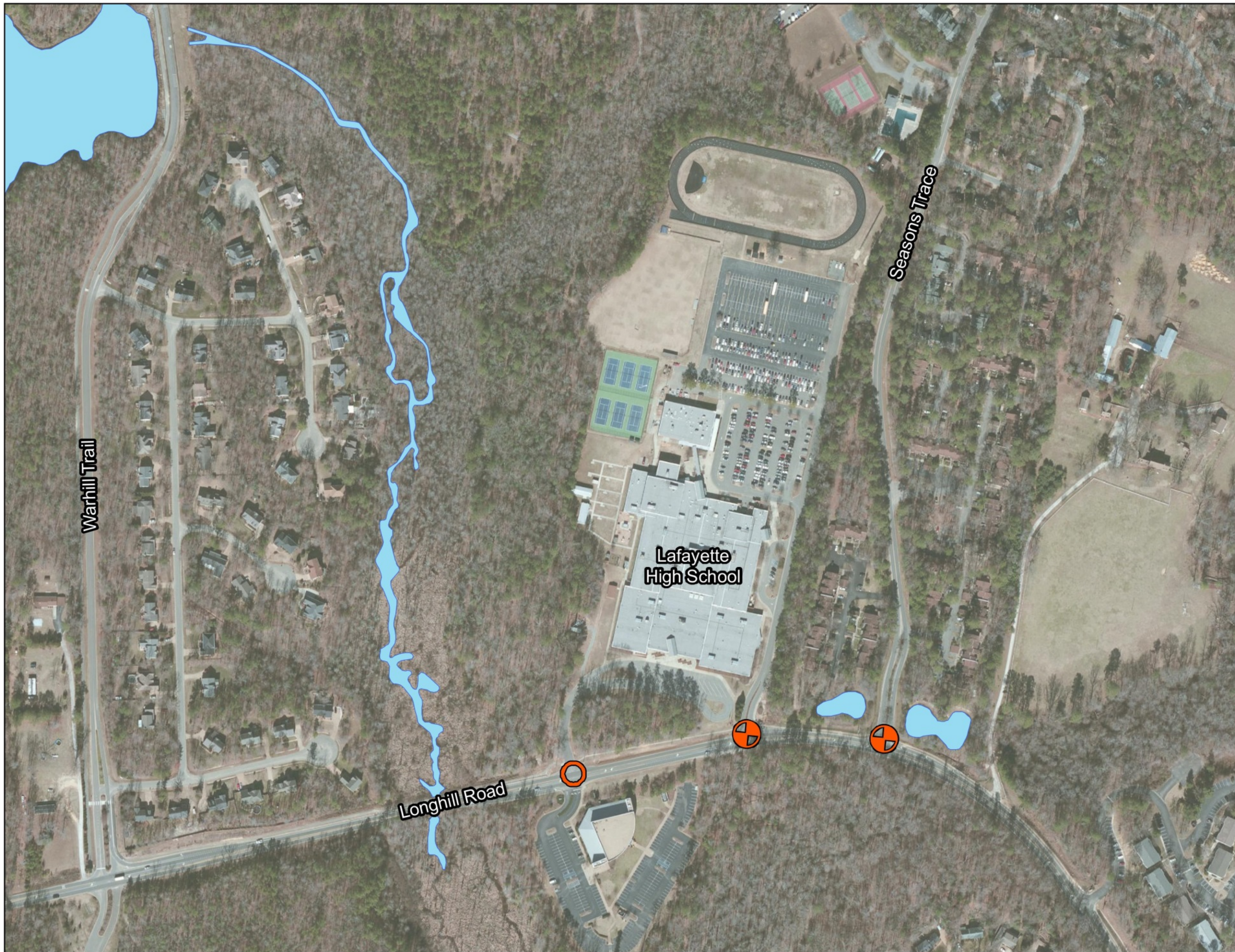
Data Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed,  
Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX,  
Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User  
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# Longhill Road Corridor Study

## Lafayette High School and Seasons Trace Intersections

Option #9



-  Unsignalized Full Movement
-  Unsignalized Partial Access  
RI/RO Channelized Left-Turn
-  Signalized
-  James City County Hydrology

0 90 180 360 Feet



Coordinate System: NAD 1983 StatePlane  
Virginia South FIPS 450 Feet

Data Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User CommunityJames City County

Kimley»Horn

Lafayette High School Site Access to Longhill Road Improvement Options Comparison

Improvement Option	Access	Rationale	Operations		Environmental Impact	Cost *	Comments
			Pros	Cons			
Option 1	1) LHS Bus Loop Entrance – Unsignalized/Full-Movement 2) LHS Main Entrance – Unsignalized/Partial Access (RI/RO Channelized EB Left-Turn Lane) 3) Seasons Trace Entrance – Signalized/Full-Movement 4) New Roadway Connection constructed between LHS and Seasons Trace	1) Traffic volumes, the configuration of the road, and travel speeds have resulted, and are expected to continue to result in conditions that many road users feel are unsafe. A signal to accommodate left-turn movements exiting both site access driveways would help alleviate these issues. 2) The Seasons Trace community <u>could</u> warrant a traffic signal by themselves. However, this would not resolve the operational concerns/challenges LHS students, faculty, staff, and buses would continue to deal with when exiting the site during peak operational times. 3) Collectively LHS and Season’s Trace traffic volumes <u>will</u> warrant a traffic signal. This results in both groups benefiting. 4) Locating the traffic signal at Season’s Trace site driveway serves year-round residents, who have peak entering/exiting movements for a greater proportion of the day. 5) In addition, it is better to have LHS motorists using a public road than to have residents in Seasons Trace traveling through along the high school entrance road. 6) The lefts-out from LHS main entrance would be restricted because the distance between the two existing site access driveways is too short to allow a full-movement intersection and a signalized intersection, or two signalized intersections (VDOT Access Management regulations). 7) Based on the anticipated cost of improving the Longhill Road/Season’s Trace intersection to adequately install a traffic signal and associated exclusive turn-lanes providing a connection between the two sites enhances the number of users that benefit from the improvement. The additional user benefits component improves the probability of funding.	1) Traffic signal would help address safety issues and operational issues where side streets currently experience longer periods of delay during peak traffic conditions. 2) The connection road between LHS and Season’s Trace could also function as a secondary emergency services access in the event of an emergency that blocked the main entrance road at the Longhill Road intersection.	1) Adds car and bus traffic to Season’s Trace. However, this would be offset by the fact that having a traffic signal would allow motorists exiting Season’s Trace to have a dedicated, predictable amount of time to more safely exit on to Longhill Road. As cars are stopped on Longhill Road this allows Seasons Trace and LHS to exit safely and efficiently. 2) Concern has been expressed that some busses do stage at the rear of the high school (not in the bus loop area) – these buses would travel through Season’s Trace. (The school division may be able to figure out alternatives to staging some or all of these buses at Lafayette). 3) Seasons Trace residents have voiced they do not want this connection.	1) Intersection improvements will likely result in the modification of the stormwater ponds. 2) No Environmental Resources would be impacted by the road connection between Season’s Trace and LHS.	1) For the road connection between Season’s Trace and Lafayette, a distance of approximately 230 feet, the estimated cost would be: \$400K ~ \$500K 2) Traffic Signal and Intersection Improvements is in the range of \$1.4 ~ \$1.6 Million	Anticipated to have least cost and environmental impact. However, has the drawback of mixing school and neighborhood traffic.

**Lafayette High School Site Access to Longhill Road Improvement Options Comparison**

Improvement Option	Access	Rationale	Operations		Environmental Impact	Cost *	Comments
			Pros	Cons			
Option 2	1) LHS Bus Loop Entrance – Unsignalized/Full-Movement 2) LHS Main Entrance – Unsignalized/Full-Movement 3) Season’s Trace Entrance (RELOCATED approximately 300 feet to the East) – Unsignalized/Full-Movement	1) Intersection spacing is such that it allows for two-full movement intersections to be maintained if one or the other were to be signalized in the future. 2) Since the Seasons Trace community <u>could</u> warrant a traffic signal by themselves, and the Seasons Trace community does not want a connection between the two properties, this will allow LHS to maintain full-movement access at the main entrance.	1) Maintains separation of motorists from LHS and Seasons Trace. 2) Provides both locations with full-movement access.	1) Neither entrance would be signalized resulting in operational conditions similar to those that exist today. 2) The relocated entrance would be a substantially different geometry (curved versus straight), and would require a VDOT design exception (due to having to have a lower than 35 mph design speed). 3) The re-located entrance would likely be quite close to the side of the units on Spring East (in Season’s Trace). 4) The entrance to the Warhill Inn B&B would be affected (joined to the entrance road with a T-intersection).	1) The relocated entrance would be closer/into the stream and RPA features. 2) Likely to result in the modification of the stormwater ponds to a greater degree than would occur with just the widening of Longhill Road.	1) For the relocated entrance road to Seasons Trace, a distance of approximately 560 feet (this also includes substantial reconstruction of the existing culverts), the estimated cost would be in the range of :  \$1.3 ~ \$1.5 Million*With signal/intersections improvements additional \$400K to \$600K	This option seems feasible, assuming VDOT would grant the design exception, but also has a number of other environmental and neighborhood impact related drawbacks.
Option 3	1) LHS Bus Loop Entrance – Unsignalized/Full-Movement 2) LHS Main Entrance – Intersection eliminated 3) Season’s Trace Entrance – Unsignalized/Full-Movement 4) OTHER ITEMS: The bus loop entrance would now be the main/only entrance. The bus loop itself would be moved to the west side of the high school, while the main entrance road would split off and travel in front of the school before joining the existing entrance road alignment.	1) As noted in Options 1 or 2, there is currently not enough separation distance to allow for either two signalized intersections or a signalized intersection and a full movement unsignalized intersection (per VDOT Access Management Guidelines). 2) However, if the current bus entrance was made into the main entrance for LHS, it would be possible to achieve enough distance to allow for two full-movements unsignalized or a full-movement and a signalized intersection. This option differs from #4 below by not including the new road around the school by instead moving the bus loop location.	1) This option would maintain the separation of motorists from LHS and Seasons Trace. 2) Provides both locations with full-movement access.	1) This option would mix bus and other vehicle traffic, which is a safety issue not desired by the WJCC School Division. 2) This option creates a situation where two intersections are placed in extremely close proximity to one another creating a very unsafe traffic operation condition on site. 3) There is currently a cell tower in the location where the bus loop would need to go. The cell tower lease will end in 2018. 4) Other elements on the west side of the building might also need to be re-located (pavilion, garden, playground area, possible the area where trailers could go).	1) There is question/concern regarding whether the bus loop could fit along the west side of the building given the RPA, wetlands and steep slopes. 2) A preliminary examination based on an exhibit that was prepared for the cell tower site plan suggests that there may be sufficient space; however, further formal investigation would be needed to confirm this with certainty.	1) There would be costs associated with relocating the bus loop and re-routing the main entrance drive in front of the school. 2) These costs could be fairly significant due to grading of the new connection across the front of the school and construction of a new bus loop.	This option seems feasible, but has drawback of mixing bus and car traffic at Lafayette, extreme safety concerns.

Lafayette High School Site Access to Longhill Road Improvement Options Comparison

Improvement Option	Access	Rationale	Operations		Environmental Impact	Cost *	Comments
			Pros	Cons			
Option 4	1) LHS Bus Loop Entrance – Unsignalized/Full-Movement  2) LHS Main Entrance – (Undetermined whether it would be eliminated, or be Right-In/Right-Out (RI/RO only)  3) Season’s Trace Entrance – Signalized/Full Movement 4) OTHER ITEMS: A new segment of road would be built that would connect the bus loop entrance to the rear parking lot.	1) As noted in Options 1 or 2, there is currently not enough separation distance to allow for either two signalized intersections or a signalized intersection and a full movement unsignalized intersection (per VDOT Access Management Guidelines).  2) However, if the current bus entrance was made into the main entrance for Lafayette, it would be possible to achieve enough distance to allow for two full-movement unsignalized intersections or a full-movement and a signalized intersection.	1) This option would maintain the separation of motorists from LHS and Seasons Trace.  2) Provides both locations with full-movement access.	1) Mixes bus and other vehicle traffic, which is a safety issue not desired by the School Division.  2) Building this new segment of road would have significant impacts on the site. It would likely mean relocating or eliminating at least two of the tennis courts, as well as conflicting with the position of the existing cell tower on the site (the land is leased for a 10 year period, ending in 2018).  3) Building the road through this area would likely eliminate the ability to have trailers where they have been placed on site (where infrastructure is already in place).  4) Places a roadway fairly close to the building structure posing further concern over constructing a new road along this alignment on site.	1) Tying a new road into the existing bus loop entrance road could mean more impacts to the RPA.	1) This new road segment would be approximately 1,000 feet long, with an estimated cost of: \$1.4 to \$1.6 Million  2) *Note that this cost estimate does not include moving the tennis courts.	This option could be feasible, but appears extremely costly, with a substantial list of other drawbacks. Numerous on-site impacts.
Option 5	1) LHS Bus Loop Entrance: Roundabout 2) LHS Main Entrance – Unsignlized/Partial Access (RI/RO Channelized EB Left-Turn Lane) 3) Seasons Trace Entrance – Signalized/Full Movement	1) The lefts-out from LHS main entrance would be restricted because the distance between the two existing site access driveways is too short to allow a full-movement intersection and a signalized intersection, or two signalized intersections (VDOT Access Management regulations).  2) In this option, motorists wishing to travel eastbound on Longhill (but unable to make a left out) would not be accommodated by the connection to the Season’s Trace traffic signal, but would instead be accommodated by first turning right, then going around the roundabout at the bus loop/Christian Life Center in order to reverse direction.	1) This option would maintain the separation of motorists from Lafayette and Season’s Trace.	1) Mixes all eastbound LHS motorists with the bus traffic exiting the current bus loop. This is not recommended from a safety standpoint. 2) A roundabout slows traffic to approximately 20 mph – so this is a solution that would affect all traffic on Longhill Road at all times of day (not just at school let out). 3) Slow moving buses making a U-Turn in the Roundabout.	1) The construction of a roundabout at this point in the road would be difficult – roundabouts require a larger area than a standard intersection to construct, and this area is adjacent to the wetlands.	1) Construction of a Roundabout at this intersection is in the range of \$1.8 to \$2.0 Million.	Not recommended from a safety/mixing of traffic standpoint and operational impacts to traffic flow along Longhill Road.

Lafayette High School Site Access to Longhill Road Improvement Options Comparison

Improvement Option	Access	Rationale	Operations		Environmental Impact	Cost *	Comments
			Pros	Cons			
Option 6	1) LHS Bus Loop Entrance – Unsignalized/Full-Movement  2) LHS Main Entrance – Roundabout  3) Seasons Trace Entrance – Signalized/Full-Movement	1) The lefts-out from LHS main entrance would be restricted because the distance between the two existing site access driveways is too short to allow a full-movement intersection and a signalized intersection, or two signalized intersections (VDOT Access Management regulations).  2) However, with a roundabout, motorists wishing to travel eastbound on Longhill Road (but unable to make a left out) would be accommodated via the roundabout.	1) This option would maintain the separation of motorists from LHS and Seasons Trace.	1) Might not meet VDOT standards due to spacing issues.	1) Does not appear to be significant.		Staff is still in the process of determining whether VDOT would permit a roundabout in this location due to the spacing issues. However, in discussions with VDOT they are always in favor of roundabouts being taken into consideration for a means of access to/from a site or as a means of alternative traffic control. If permitted, it would allow full movement for the main entrance.
Option 7	1) LHS Bus Loop Entrance – Unsignalized/Full-Movement 2) LHS Main Entrance – Unsignalized/Partial Access (RI/RO Channelized EB Left-Turn Lane) 3) Seasons Trace Entrance – Unsignalized/Full-Movement 4) OTHER ITEMS: Construct a new road segment that would take those wishing to make a left-out across the front of the school over to the bus loop entrance, where they would be able to do so.	1) This option would allow for left-out turning movements.	1) This option would maintain the separation of motorists from Lafayette and Season’s Trace.	1) Two choices for the new road segment – a) Routing it within the existing bus loop, b) building a new connection that would thread in between the bus loop at Longhill Road.  2) Either configuration mixes general LHS traffic with bus traffic, which is not an ideal scenario from a safety point of view.  3) As far as building a new connection in between the bus loop and Longhill, it does not appear that there would be sufficient space, especially once Longhill Road were widened. It is also hard to imagine how this new connection could be brought into the bus loop entrance safely (would involve a T-intersection?).  4) Routing this left turning group within the existing bus loop, would seem to involve either bringing motorists in between the school and the buses (potentially unsafe) or bringing motorists in right at the point that the buses are turning around (which seems like a bad point to merge these two types of traffic).	1) It appears no Environmental resources would be impacted by the road connection between the LHS main entrance and the LHS bus loop.	1) Construction of a Roundabout at this intersection is in the range of \$1.1 to \$1.5 Million.	This is not recommended from a feasibility, safety and operations standpoint.

Lafayette High School Site Access to Longhill Road Improvement Options Comparison

Improvement Option	Access	Rationale	Operations		Environmental Impact	Cost *	Comments
			Pros	Cons			
Option 8	1) LHS Bus Loop Entrance – Unsignalized/Full-Movement 2) LHS Main Entrance – Eliminated (relocated – see description below). Consideration for a RI/RO only. 3) Seasons Trace Entrance – Unsignalized/Full-Movement 4) OTHER ITEMS: A new segment of road would be built that would connect the parking at the rear of LHS site to Warhill Sports Complex.	1) This option would solve the issue of the LHS-Seasons Trace connection and intersection spacing by routing most traffic to Warhill Trail through the Warhill Sports Complex.	1) This option would maintain the separation of motorists from Lafayette and Season’s Trace.  2) A traffic signal is planned/proposed at the entrance to the Warhill Sports Complex, so motorists accessing LHS would be able to enter/exit Longhill Road at a signal.  3) This option would keep bus and passenger vehicles separated.	1) This option would likely impact either the track or the multi-purpose field at Lafayette, likely necessitating relocation (if possible) or elimination.  2) Crossing over onto the Complex property, there is pinch point between the baseball field and the RPA – a new road would likely impact one or the other. In addition, the new road would cause the existing multi-use path to have to be relocated.  3) Warhill Trail already experiences very heavy traffic at certain times, so it would not be ideal to add Lafayette traffic to this scenario.	1) The new road segment would have to cross a major area of RPA and wetlands, necessitating a bridge.	1) Building the new segment of road would likely be extremely costly.  2) The estimated distance would be approximately 1,950 and would include at least one bridge and/or box culverts, resulting in an approximate cost of: \$7 ~ \$8 Million	This is not recommended from a feasibility, cost and environmental impact standpoint.
Option 9	1) LHS Bus Loop Entrance – Unsignalized/Full-Movement 2) LHS Main Entrance – Signalized/Full-Movement 3) Seasons Trace Entrance – Signalized/Full-Movement	1) Provides signalized traffic control at both site access driveway intersections. Keeps LHS and Seasons Trace traffic separated. 2) Traffic volumes, the configuration of the road, and travel speeds have resulted, and are expected to continue to result in conditions that many road users feel are unsafe. Traffic signals to accommodate left-turn movements exiting both site access driveways would help alleviate these issues. 3) The Seasons Trace community <u>could</u> warrant a traffic signal by themselves. 4) LHS is close to also warranting a traffic signal by itself.	1) Traffic signals would help address safety issues and operational issues where side streets currently experience longer periods of delay during peak traffic conditions – this is the only option that includes having a signal along this part of Longhill Road.	1) Despite both intersections either meeting and/or very close to meeting necessary signal warrants it is highly unlikely VDOT would signalize both intersections.  2) The distance between the LHS intersection and the Seasons Trace entrance is too short to allow for two signalized intersections (VDOT access management regulations).	1) Intersection improvements will likely result in the modification of the stormwater ponds.  2) No Environmental Resources would be impacted by the road connection between Season’s Trace and LHS.	1) Traffic signalization of both intersections and intersection improvements at both locations is in the range of \$2.0 ~ \$2.4 Million	While this option would be ideal in many ways, it does not meet access management/intersection spacing guidelines. Staff can continue to work with VDOT to determine if there might be a chance that a design or access waiver could be granted.

\* Very general Planning Level Cost Estimates.

## **WJCC School Board Meeting – August 19, 2014**

### **Longhill Road Corridor Study Site Access Options**

Main issues from School Board meeting by each option:

#### Options and Issues

1. Many concerns regarding the residents of Season's Trace and increased traffic. No issues noted regarding the school. Questions about possible widening of the Season's Trace main road to accommodate traffic.
2. Same question about widening the Season's Trace main road.
3. Question about who would pay for the new bus loop construction?
4. Questions about need to move tennis courts and possible wetlands implications.
5. Major concerns about bus loop roundabout and student drivers.
6. Major concerns about main entrance roundabout and student drivers.
7. Some concerns about mixing car and bus traffic.
8. Basically dismissed as a viable solution.
9. Favorable responses. Board urged JCC to work with VDOT for approval of two signals.

#### Other Comments

\* Board noted repeatedly during the above discussion in their view that a signal is needed at the Lafayette main entrance.

\* Board would like to give parents and staff an opportunity for input into this process as options narrowed.

\* Noted main goal for the Board is the safety of students and staff.

\* Board thanked JCC for the collaboration on this project.

\* Mr. Fuentes asked that serious consideration be given before 2025 to adding traffic calming measures by Lafayette. This could include rumble strips and moving the flashing sign further out. He also asked for crosswalks, especially at Windsor Forest and Regency, and possibly extending the multi-use trail.